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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/529,154	03/24/2005	Yoshihisa Umeno	10873.1582USWO	1870

52835 7590 01/06/2009

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EXAMINER	
CORRIGAN, JOSEPH JAMES	
ART UNIT	PAPER NUMBER
3744	
MAIL DATE	DELIVERY MODE
01/06/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/529,154	UMENO, YOSHIHISA	
	Examiner	Art Unit	
	JOSEPH CORRIGAN	3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 July 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3 and 5-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3 and 5-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *7/21/08*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 7, 2008 has been entered.

Claim Objections

2. Claims 1-3, and 5-10 are objected to because of the following informalities: In claim 1, lines 17 and 18, the phrase “the discharged flow and the sucked flow directed from the cooling chamber to the cooler collide with each other in a portion in which the aperture is provided” fails to concisely define said “portion”. For the purposes of the office action, “the discharged flow and the sucked flow directed from the cooling chamber to the cooler collide with each other in a portion in which the aperture is provided” has been interpreted as --the discharged flow and the sucked flow directed from the cooling chamber to the cooler collide with each other in an air space in the vicinity of the aperture--.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lazar '2,747,381' in view of Howe '4,420,679'.

In re claim 1, Lazar discloses a cooling device, comprising: a cooler 28 provided on at least one side-wall side 8A of a main body (see marked up figure 1) formed with a thermal insulating box; a cooling chamber (see marked up figure 1) in front of the cooler 28; and a fan 58 that allows air in the cooling chamber (see marked up figure 1) to flow, wherein the cooler and the cooling chamber are partitioned by a partition 68 so as to allow cold air to be accumulated in the cooler 28, the fan 58 is disposed on a side of the cooler 28 relative to the partition 68, the partition in front of the fan 58 has an aperture 66 formed in a flat sheet portion, an open space is formed between the fan and the flat sheet portion in which the aperture is formed (see figure 4), cold air accumulated in a space inside the partition, and hot air in the cooling chamber are exchanged by the fan 58 through the aperture 66; however, Lazar fails to explicitly recite that the rotation of the fan generates a discharged flow of cold air discharged from the cooler to the cooling chamber through the aperture and a sucked flow of cold air sucked from the cooling chamber to the cooler through the aperture, and the discharged flow and the sucked

flow directed from the cooling chamber to the cooler collide with each other in a portion in which the aperture is provided.

Howe teaches mixing two thermally diverse bodies of air with a fan through an oversized aperture in a plane defined by a partition disposed a distant out in front of the fan, wherein mixing of the diverse air bodies takes place (see figures 2 and 3 & also col. 5, lines 10-40).

Therefore, it would thus have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the apparatus of Lazar with an oversized fan aperture as taught by Howe in order to advantageously create a more subtle temperature gradient throughout the chamber by way of enhanced mixing, and thereby, providing a more predictable environment within the enclosure for more predictable results.

In re to claim 2, Lazar discloses the invention above and further discloses in fig. 2 that dimensions of the aperture 66 are larger than a diameter of the fan 58.

In re to claim 3, Lazar discloses the invention above and further discloses in fig. 4 that when viewing the fan 58 in a direction of a rotation shaft of the fan 58, the fan 58 is disposed in the aperture 66 and there is an open space (see marked up figure 1) outside the fan.

In re claim 5, Lazar discloses the invention above; however, Lazar fails to disclose that the discharged airflow and the sucked flow collide with each other, thus suppressing the flow speed of the cold air.

Howe teaches creating a centrifugal pattern (see flow arrows in figure 2 and col. 5, lines 10-40) in and around the oversized fan aperture (see figure 3).

Therefore, it would thus have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the apparatus of Lazar with an oversized fan aperture as taught by Howe in order to advantageously create a more subtle temperature gradient throughout the chamber by way of enhanced mixing, and thereby, providing a more predictable environment within the enclosure for more predictable results.

In re to claim 6, J. H. Lazar discloses invention above and further discloses in fig. 3, the fan 58 is disposed above the cooler 28.

In re to claim 7 & 9, Lazar discloses invention above, however, Lazar fails to disclose that a fan application with an area of the aperture S and a diameter of the fan R, the following relationship

$$1.5\times\pi(R/2)^2 \leqq S \leqq 2\times\pi(R/2)^2$$

Howe teaches through figure 3 illustration that the aperture diameter is approximately twice the length of the fan sweep diameter, and therefore, meets the limitation criteria.

Therefore, it would thus have been obvious to one of ordinary skill in the art at the time of the invention was made to additionally modify Lazar by proportioning the fan to aperture ratio in accordance with

$$1.5\times\pi(R/2)^2 \leqq S \leqq 2\times\pi(R/2)^2$$

as taught by Howe in order to advantageously create a more subtle temperature gradient throughout the chamber by way of enhanced mixing, and thereby, providing a more predictable environment within the enclosure for more predictable results.

It would have been further obvious to one of ordinary skill in the art at the time of the invention was made to modify the apparatus of Lazar with an oversized fan aperture with a plurality of proportions with said range in order to advantageously create a customized flow pattern, and thereby, further satisfying designers criteria to afford better results.

In re claim 8, Lazar discloses invention above and further discloses that a slit is formed in the partition 68 at a portion opposed to the cooler 28 or a portion below the cooler 28. Broadly recited, a “slit” (see marked-up drawing 5) is an opening, and thus, Lazar teaches a slit.

In re to claim 10, Lazar discloses invention above and further discloses that a safety cover (see marked-up drawing 2) is disposed over the fan aperture.

Response to Arguments

5. Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph J. Corrigan whose telephone number is 571-270-3213. The examiner can normally be reached on M-F 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, are Cheryl Tyler or Frantz Jules on (571) 272-4834 or (571) 272-6681, respectively. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

7. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Joseph J Corrigan
Examiner
Art Unit 3744
01/02/08

/Allan N. Shoap/
Supervisory Patent Examiner, Art Unit 3700